

ABSTRACTPHOTON SOURCE COMPRISING AN ECR SOURCE WITH PRESSURE  
GRADIENT

The invention relates to a photon source comprising an electron cyclotron resonance (ECR) multicharged ion plasma source, the multicharged ions corresponding to several charge states of a first constituent (g1) inserted into a vacuum chamber (CH), and at least one charge state emitting photons with a wavelength  $\lambda_0$  by de-excitation, wherein means set up a pressure gradient within the chamber (CH) of the first constituent (g1) and/or at least one second constituent (g2) different from the first constituent (g1), the pressure gradient being capable of creating an energy gradient of plasma electrons such that additional multicharged ions are created emitting photons with a wavelength equal to approximately  $\lambda_0$  by de-excitation.

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Figure 3.